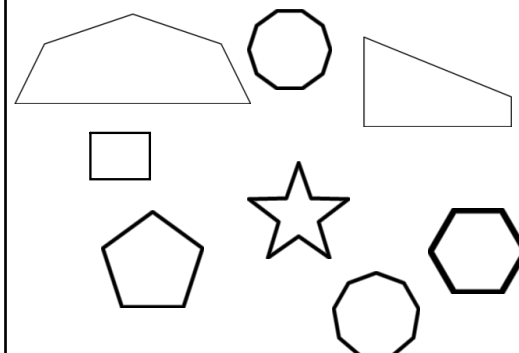


1-6 Polygons

polygon--closed figure, whose sides are all segments

- sides have a common endpoint and are non collinear
- each side intersects exactly 2 other sides

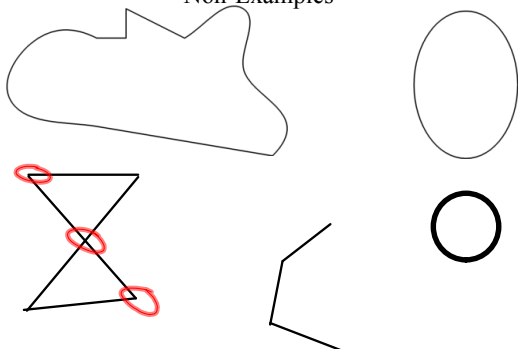
Examples



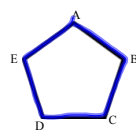
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Non-Examples




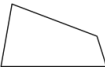


Name by the vertices, in consecutive order







polygon AEDCB
 polygon ABCDE

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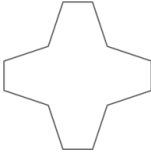
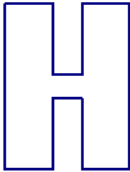
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Types of Polygons		
Shape	# of sides	Name
	3	Triangle
	4	Quadrilateral
	5	Pentagon
	6	Hexagon

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	7	Heptagon
	8	Octagon
	9	Nonagon
	10	Decagon

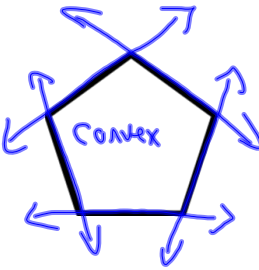
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11-gon		
	12-gon	Dodecagon
		

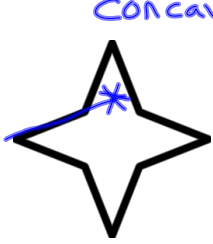
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Convex--A polygon is convex, if the line containing a side does not contain points on the interior of the polygon

Concave--Not convex



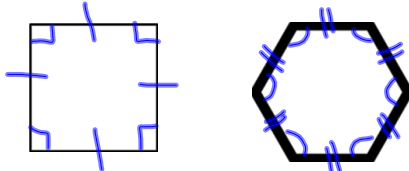
Convex



Concave

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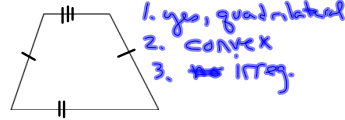
Regular Polygon--convex polygon where all of the sides are congruent, and all of the angles are congruent



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Classify the following figures as:

1. • polygon or not (if polygon, what type)
2. • convex or concave
3. • regular or irregular

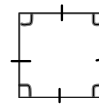


1. yes, quadrilateral
2. convex
3. ~~no~~ irreg.

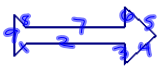


1. no

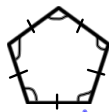
1. yes, quad.
2. convex
3. regular



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1. yes, nonagon
2. concave
3. irreg.



1. yes, pentagon
2. convex
3. reg.



1. yes octagon
2. concave
3. irreg.

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Find the perimeter of ABCDE $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
A(0, 4) B(4, 0) C(3, -4) D(-3, -4) E(-3, 1)

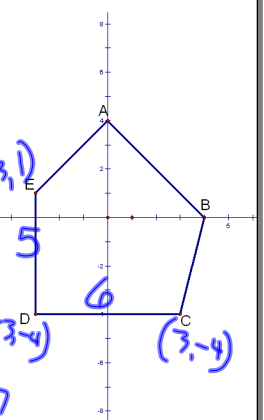
$$AE = 3\sqrt{2}$$

$$AB = 4\sqrt{2}$$

$$BC = \sqrt{(4-3)^2 + (0-(-4))^2} = \sqrt{1+16}$$

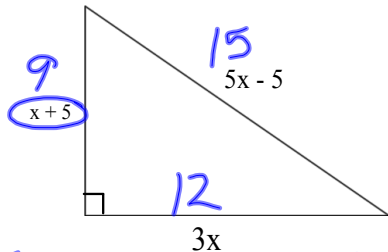
$$BC = \sqrt{17}$$

$$P = 5 + 6 + 3\sqrt{2} + 4\sqrt{2} + \sqrt{17} \approx 25.02 \text{ units}$$



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If the perimeter of the triangle below is 36 units, find the length of the sides.



$$\begin{aligned}x + 5 + 3x + 5x - 5 &= 36 \\9x &= 36 \\x &= 4\end{aligned}$$

HW

p48-50

#s 5-8, 26, 29-33

* Packet

Sep 19-2:51 PM

Sep 19-2:54 PM